

CLAIMS

1. A juvenile seat comprising
a base including a bottom seat portion,
a lower back section coupled to the base and positioned to lie at an
5 angle relative to the bottom seat portion, the lower back section including a planar
front surface, and
a headrest coupled to the lower back section for up and down
movement relative to the base and the lower back section, the headrest including a
planar front surface, wherein the headrest is positioned forward the planar front
10 surface of the lower back section, and further wherein an offset distance between the
planar front surface of the lower back section and the planar front surface of the
headrest is less than approximately 0.375 inch (9.53 mm) in order to provide a smooth
and continuous back rest surface for the juvenile seated therein.
- 15 2. The juvenile seat of claim 1, wherein the offset distance is
approximately 0.120 inch (3.05 mm).
3. The juvenile seat of claim 1, wherein the headrest further
includes a planar rear surface engaged with the planar front surface of the lower back
20 section.
4. The juvenile seat of claim 3, wherein the planar front surface of
the headrest and the planar front surface of the lower back section cooperate to define
a seat back of the juvenile seat adapted to support a juvenile's back thereon.
- 25 5. The juvenile seat of claim 3, wherein the headrest further
includes a back plate formed to define the planar front surface of the headrest, a top
wall coupled to the back plate, and first and second side walls each coupled to the
back plate and the top wall, and wherein a rear planar surface of the back plate, the
30 top wall, and the first and second side walls of the headrest cooperate to define an
area formed to receive a portion of the lower back section therein.

6. The juvenile seat of claim 5, wherein the lower back section includes a planar wall formed to define the planar front surface, a top wall coupled to the planar wall, and first and second side rails each coupled to the top wall and the planar wall, and wherein the first and second side rails of the lower back section are
5 positioned between the first and second side walls of the headrest.

7. The juvenile seat of claim 5, further comprising a height-adjustment mechanism formed to adjust a height of the headrest above the bottom seat portion of the base relative to the lower back section and including an actuator
10 movable between a locked position to prevent the headrest from moving relative to the lower back section and an unlocked position to permit the headrest to move relative to the lower back section, and wherein the actuator is coupled to one of the first and second side walls of the headrest.

8. The juvenile seat of claim 1, further comprising alignment means for maintaining alignment between the headrest and the lower back section as the headrest is moved upwardly and downwardly relative to the lower back section.
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9. The juvenile seat of claim 8, wherein the headrest further
20 includes a back plate formed to define the planar front surface of the headrest and first and second side walls each coupled to the back plate and the lower back section includes a planar wall formed to define the planar front surface and first and second side rails each coupled the planar wall, and wherein the alignment means includes a flange coupled to one of the first and second side walls of the headrest to provide a
25 slot between the one of the first and second side walls and the flange such that one of the respective first and second side rails of the lower back section is received within the slot.

10. The juvenile seat of claim 9, wherein the flange is a first flange
30 coupled to the first side wall of the headrest and the alignment means includes a second flange coupled to the second side wall of the headrest to provide a second slot

between the second side wall and the second flange to receive a portion of the second side rail of the lower back section therein.

11. The juvenile seat of claim 9, wherein the flange is a first flange
5 coupled to the first side wall of the headrest and the alignment means includes a second flange coupled to the first side wall of the headrest and position in spaced-apart relation to the first flange to provide a second slot between the first side wall and the second flange to receive a portion of the first side rail of the lower back section therein.

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12. The juvenile seat of claim 8, wherein the alignment means includes a first flange coupled to the first side wall of the headrest to define a first slot between the first flange and the first side wall, a second flange coupled to the first side wall of the headrest to define a second slot between the second flange and the
15 first side wall, a third flange coupled to the second side wall of the headrest to define a third slot between the third flange and the second side wall, and a fourth flange coupled to the second side wall of the headrest to define a fourth slot between the fourth flange and the second side wall, and wherein the first side rail of the lower back section is received within the first and second slots and the second side rail of
20 the lower back section is received within third and fourth slots.

13. The juvenile seat of claim 1, wherein the headrest includes a first side wall and a second side wall spaced-apart from the second side wall and the lower back section includes a first side rail and a second side rail adjacent the first
25 side rail, and wherein the first side wall of the headrest and the first side rail of the lower back section are slidably engaged with each other and the second side wall of the headrest and the second side rail of the lower back section are slidably engaged with each other.

30 14. The juvenile seat of claim 13, further comprising a height-adjustment mechanism for adjusting a height of the headrest above the bottom seat portion including a first actuator coupled to the first side wall of the headrest and a

second actuator coupled to the second side wall of the headrest to provide for side operation of the height-adjustment mechanism.

15. The juvenile seat of claim 14, wherein the height-adjustment
5 mechanism further includes a plurality of vertically-spaced slots provided in the first and second side rails of the lower back section and a height-adjustment bar coupled to each of the first and second actuators and biased to be received within one or more of the vertically-spaced slots, and wherein the first and second actuators are each
coupled to one of the height-adjustment bars to move the respective height-adjustment
10 bar from a locked position received within the vertically-spaced slots to an unlocked position disengaged from the vertically-spaced slots.

16. The juvenile seat of claim 1, further comprising an anti-backout
mechanism coupled to the headrest to limit a height of the headrest above the bottom
15 seat portion of the base.

17. The juvenile seat of claim 16, wherein the anti-backout
mechanism includes a stopper coupled to a side wall of the headrest to engage a top
wall of the lower back section.

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18. The juvenile seat of claim 17, wherein the stopper is a tab
positioned at an angle relative to a vertical axis along the side wall, and wherein the
tab is movable between an opened, angled position engageable with the top wall of
the lower back section and a closed, vertical position adjacent with the side wall of the
25 headrest to pass through a notch formed in the lower back section.

19. The juvenile seat of claim 18, wherein the anti-backout
mechanism further includes a flange coupled to the side wall of the headrest, and
wherein the flange is formed to define a channel for receiving a portion of a side rail
30 of the lower back section therein, and wherein the stopper is coupled to the flange.

20. The juvenile seat of claim 17, wherein the stopper of the anti-backout mechanism is a first stopper coupled to a first side wall of the headrest and the anti-backout mechanism includes a second stopper coupled to a second side wall of the headrest to engage the top wall of the lower back section.

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21. The juvenile seat of claim 16, further including a height-adjustment mechanism arranged to adjust a height of the headrest above the bottom seat portion of the base and wherein the anti-backout mechanism is positioned above the height-adjustment mechanism.

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22. The juvenile seat of claim 1, wherein the base includes first and second armrest mounts, the lower back section includes first and second armrest shells each formed to define a cavity therein, and wherein the cavity of each of the first and second armrest shells receives one of the first and second armrest mounts of the base therein in order to couple the lower back section to the base.

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23. The juvenile seat of claim 22, wherein the base includes first and second side walls each forming one of the armrest mounts and each forming a notch therein adapted to receive a portion of a vehicle seat belt therethrough, and wherein each notch is formed between a front portion of each side wall and the armrest mount of each side wall.

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24. The juvenile seat of claim 23, wherein each armrest mount of the base is coupled to a rearward portion of the bottom seat portion of the base.

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25. The juvenile seat of claim 22, wherein each armrest mount of the base and each corresponding armrest shell of the lower back section cooperate to define an armrest of the juvenile seat.

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26. The juvenile seat of claim 22, wherein the base includes at least one aperture located between the armrest mounts and the lower back section includes at least one aperture located between the armrest shells to be aligned with the at least

one aperture of the base, and wherein the at least one aperture of the base and the lower back section are formed to receive a fastener therein to couple the lower back section to the base.

5 27. The juvenile seat of claim 22, wherein the first and second armrest shells each include a top wall, a first side wall coupled to the top wall, a second side wall coupled to the top wall and spaced-apart from the first side wall, and an end wall coupled to the top wall and the first and second side walls, and the top wall, end wall, and first and second side walls cooperate to define the cavity formed
10 to receive the portion of the respective first and second side walls of the base therein.

 28. The juvenile seat of claim 22, wherein the lower back section further includes first and second side rails coupled to the planar body and wherein the first armrest shell is coupled to the first side rail of the planar body and the second
15 armrest shell is coupled to the second side rail of the planar body.

 29. The juvenile seat of claim 28, further including a height-adjustment mechanism for raising and lowering a height of the headrest above the bottom seat portion including vertically-spaced slots provided in the first and second
20 side rails of the lower back section and a height-adjustment bar movable between a locked position received within at least one of the vertically-spaced slots to prevent movement of the headrest relative to the base and the lower back section and an unlocked position disengaged from the vertically-spaced slots to permit movement of the headrest relative to the base and the lower back section.

25 30. A juvenile seat comprising
 a base including a bottom seat portion, and
 a seat back coupled to the base and formed to include a seat back surface adapted to support a juvenile's back thereon, the seat back surface including a
30 first planar surface and a second planar surface offset from the first surface by a small offset distance.

31. The juvenile seat of claim 30, wherein the seat back includes a lower back section including the first planar surface and a headrest coupled to the lower back section and including the second planar surface, the headrest being movable up and down relative to the lower back section.

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32. The juvenile seat of claim 31, wherein the headrest further includes a rear planar surface engaged with the front planar surface of the lower back section.

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33. The juvenile seat of claim 30, wherein the small offset distance is less than approximately 0.375 inch (9.53 mm).

34. The juvenile seat of claim 33, wherein the small offset distance is approximately 0.120 inch (3.05 mm).

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35. The juvenile seat of claim 30, further comprising a height-adjustment mechanism provided to couple the headrest to the lower back section, the height-adjustment mechanism being arranged to move between a locked position to prevent movement of the headrest relative to the lower back section and an unlocked position to permit up and down movement of the headrest relative to the lower back section.

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36. The juvenile seat of claim 35, wherein the height-adjustment mechanism includes a height-adjustment bar coupled to the headrest for up and down movement therewith and a plurality of vertically-spaced slots formed in the lower back section to receive the height-adjustment bar therein in the locked position.

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37. A juvenile seat comprising
a base including a bottom seat portion,
a seat back coupled to the base and adapted to support a juvenile's back thereon, the seat back including a lower back section and a headrest coupled to the lower back section for up and down movement relative thereto and laterally

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spaced-apart from the lower back section a distance less than approximately 0.375 inch (9.53 mm),

an adjuster arranged to move the headrest up and down relative to the lower back section, and

5 means for preventing the headrest from being removed from the lower back section as the headrest is being moved upwardly relative to the lower back section.

38. The juvenile seat of claim 37, wherein the adjuster includes an
10 actuator coupled to the headrest for up and down movement relative to the headrest, a plurality of vertically-spaced slots provided in the lower back section, and a height-adjustment bar coupled to the actuator for up and down movement with the headrest, the height-adjustment bar is received within at least one of the vertically-spaced slots in a locked position to prevent the up and down movement of the headrest relative to
15 the lower back section and disengaged from the vertically-spaced slots in an unlocked position to permit up and down movement of the headrest relative to the lower back section.

39. The juvenile seat of claim 37, wherein the preventing means
20 includes an anti-backout mechanism coupled to the headrest and configured to include a stopper coupled to a side wall of the headrest to engage a top wall of the lower back section when the lower back section is moved to an uppermost position.

40. A juvenile seat comprising
25 a base including a bottom seat portion,
a lower back section coupled to the base and positioned to lie at an angle relative to the bottom seat portion,
a headrest coupled to the lower back section for up and down movement relative to the base and the lower back section to adjust a height of the
30 headrest above the bottom seat portion of the base, and
an anti-backout mechanism coupled to the headrest to limit the height of the headrest above the bottom seat portion of the base.

41. The juvenile seat of claim 40, wherein the anti-backout mechanism includes a stopper coupled to a side wall of the headrest to engage a top wall of the lower back section.

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42. The juvenile seat of claim 41, wherein the stopper is a tab positioned at an angle relative to a vertical axis along the side wall.

43. The juvenile seat of claim 42, wherein the tab is arranged to
10 move between an opened, angled position engagable with the top wall of the lower back section and a closed, vertical position adjacent with the side wall of the headrest to pass through a notch formed in the lower back section.

44. The juvenile seat of claim 42, wherein the anti-backout
15 mechanism further includes a flange coupled to the side wall of the headrest, the flange is formed to define a channel for receiving a portion of a side rail of the lower back section therein, and the stopper is coupled to the flange.

45. The juvenile seat of claim 40, further comprising a height-
20 adjustment mechanism arranged to adjust a height of the headrest above the bottom seat portion and wherein the anti-backout mechanism is positioned above the height-adjustment mechanism.

46. The juvenile seat of claim 45, wherein the anti-backout
25 mechanism is positioned above the height-adjustment mechanism.

47. A juvenile seat comprising
a base including a bottom seat portion and first and second side walls
coupled to the bottom seat portion and positioned in spaced-apart relation to each
30 other and

a lower back section coupled to the base and positioned to lie at an angle relative to the bottom seat portion, the lower back section including a planar

body and first and second armrest shells coupled to the planar body and positioned in spaced-apart relation to each other, each of the first and second armrest shells being formed to define a cavity formed to receive an armrest mount of a respective first and second side wall of the base therein.

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48. The juvenile seat of claim 47, wherein the first and second side walls of the base each include a notch adapted to receive a portion of a vehicle seat belt therethrough, each notch is arranged to define a front portion and a rear portion of each side wall, and the rear portion of each side wall is the armrest mount of each side wall such that the rear portion of the first side wall is received within the cavity of the first armrest shell of the lower back section and the rear portion of the second side wall is received within the cavity of the second armrest shell of the lower back section.

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49. The juvenile seat of claim 48, wherein the armrest of the first side wall of the base and the first armrest shell cooperate to define a first armrest of the juvenile seat and wherein the armrest mount of the second side wall of the base and the second armrest shell cooperate to define a second armrest of the juvenile seat.

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50. The juvenile seat of claim 47, wherein the first and second armrest shells each include a top wall, a first side wall coupled to the top wall, a second side wall coupled to the top wall and spaced-apart from the first side wall, and an end wall coupled to the top wall and the first and second side walls, the top wall, end wall, and first and second side walls cooperating to define the cavity formed to receive the armrest mount of the respective first and second side walls of the base therein.

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51. The juvenile seat of claim 47, wherein the lower back section further includes first and second side rails coupled to the planar body and wherein the first armrest shell is coupled to the first side rail of the lower back section and the second armrest shell is coupled to the second side rail of the lower back section.

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52. The juvenile seat of claim 51, further comprising a height-adjustment mechanism to adjust a height of the headrest above the bottom seat portion of the base and wherein the height-adjustment mechanism includes a first actuator coupled to the first side rail of the lower back section and a second actuator coupled to
5 the second side rail of the lower back section, and the first and second actuators are movable between a locked position to prevent the headrest from moving up and down relative to the base and the lower back section and an unlocked position to permit the headrest to move up and down relative to the base.

10 53. The juvenile seat of claim 47, wherein the base includes an aperture formed in the bottom seat portion and positioned between the first and second side walls of the base and the lower back section includes an aperture formed in the planar body, and wherein the aperture of the planar body is aligned with the aperture of the base and each aperture is adapted to receive a fastener therein to
15 couple the lower back section to the base.